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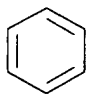
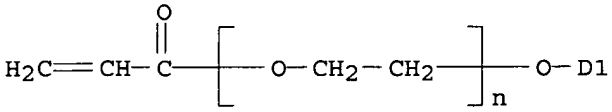
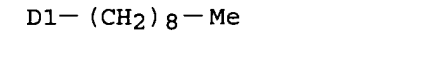
L3 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS
RN **50974-47-5** REGISTRY
CN Poly(oxy-1,2-ethanediyl), .alpha.-(1-oxo-2-propenyl)-.omega.-(nonylphenoxy)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 560A
CN Antox NA 16
CN Aronix M 111
CN CD 504
CN Ethoxylated nonylphenol acrylate
CN Light Acrylate NP 12EA
CN Light Acrylate NP 4EA
CN Light Acrylate NP 8EA
CN NA 14AC
CN NK Ester NPA 5E
CN Nonylphenol ethoxylate acrylate
CN Photomer 4003
CN Poly(ethylene oxide) nonylphenyl ether acrylate
CN Polyethylene glycol nonylphenyl ether acrylate
CN RMA 506
CN SN 5X1626
CN SR 504
CN SR 504A
CN SR 504D
DR 173046-07-6, 126830-47-5, 121240-41-3, 94469-14-4, 102069-08-9, 50975-72-9, 114836-41-8, 114836-42-9, 37263-48-2, 156671-85-1, 183146-85-2
MF (C2 H4 O)n C18 H26 O2
CI IDS, PMS, COM
PCT Polyether
LC STN Files: CA, CAPLUS, CHEMCATS, CHEMLIST, IFICDB, IFIPAT, IFIUDB, TOXCENTER, USPAT2, USPATFULL
Other Sources: NDSL**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

Ring System Data

| Elemental Analysis EA | Elemental Sequence ES | Size of the Rings SZ | Ring System Formula RF | Ring Identifier RID | RID Occurrence Count |
|---|---|---|---|---|---|
| C6 | C6 | 6 | C6 | 46.150.18 | 1 |







129 REFERENCES IN FILE CA (1957 TO DATE)
31 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
129 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1

AN 138:370306 CA
TI Integrated approach to studying the development and final network properties of urethane acrylate coatings
AU Gasper, Susan M.; Schissel, David N.; Baker, Linda S.; Smith, Diane L.; Youngman, Randoll E.; Wu, Lung-Ming; Sonner, Susan M.; Givens, Steven R.; Hancock, Robert R.
CS Science & Technology, Corning Incorporated, Corning, NY, 14831, USA
SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2003), 44(1), 27-28
CODEN: ACPPAY; ISSN: 0032-3934
PB American Chemical Society, Division of Polymer Chemistry
DT Journal; (computer optical disk)
LA English
CC 42-3 (Coatings, Inks, and Related Products)
Section cross-reference(s): 35
AB Network development in model UV-curable polyurethane acrylate coatings (with 2 different acrylate co-monomers) was monitored using FTIR and UV rheol. kinetic measurements, anal. of monomers and higher-mol.-wt. extractables by HPLC and GPC, and NMR.
ST polyurethane acrylate coating crosslinking kinetics property
IT Coating materials
Crosslink density
Crosslinking kinetics
Viscosity
(crosslinking kinetics development and final properties of polyurethane acrylate coatings)
IT Polyurethanes, uses
RL: PRP (Properties); RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
(polyoxyalkylene-, block, acrylates; crosslinking kinetics development and final properties of polyurethane acrylate coatings)
IT 50974-47-5, Photomer 4003 54398-08-2, Photomer 8061
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(crosslinking kinetics development and final properties of polyurethane acrylate coatings)
RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
(1) Andrzejewska, E; Prog Polym Sci 2001, V26, P605 CAPLUS
(2) Anseth, K; Macromolecules 1995, V28, P4040 CAPLUS
(3) Baker, L; Unpublished work 2002
(4) Billmeyer, F; Textbook of Polymer Science 1962
(5) Decker, C; Makromol Chem 1988, V189, P2381 CAPLUS
(6) Hoyle, C; Radiation Curing: Science and Technology 1992, P57 CAPLUS
(7) Lee, S; Prog Org Coat 2000, V38, P193 CAPLUS
(8) Litvinov, V; Macromolecules 2001, V34, P4051 CAPLUS
(9) Oh, S; J Poly Sci B 2000, V38, P1417 CAPLUS
(10) Youngman, R; Polym Prepr (Am Chem Soc, Div Polym Chem), in press

REFERENCE 2

AN 138:346386 CA
TI Development of high-performance normal mode type (polymer/liquid crystal) composite films using UV curable monomers
AU Hasuo, Haruumi; Yamaguchi, Masahiro; Gunjima, Tomoki; Rajesh, Kumar; Yang, Huai; Kimura, Reiko; Amaya, Naoyuki; Kaiya, Norihiro; Kikuchi, Hirotsugu; Kajiyama, Tisato
CS Chem. Textile Res. Inst., Fukuoka Ind. Technol. Cent., Chikushino, 818-8540, Japan
SO Kenkyu Hokoku - Fukuoka-ken Kogyo Gijutsu Senta (2002), Volume Date 2001, 12, 14-17
CODEN: KFKSEH; ISSN: 0916-8230
PB Fukuoka-ken Kogyo Gijutsu Senta
DT Journal

LA Japanese
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 37, 38, 75, 76
AB The driving voltage, steepness (.gamma.) and contrast of the titled film are very important elec. optical properties, which depend on the properties of both the liq. crystal and the UV curable monomer used. And to obtain large liq. crystal composite film using rolls, the temp. of polymn. is required to be ca. 40.degree.. By mixing TL213 as liq. crystal, 3,3,5-trimethylhexylacrylate (TMHA) as a monomer and 1,6-hexanedioldivinylether (HDDVE) as a crosslinking reagent; TL213/TMHA/HDDVE = 80/14/6, and polymg. under 40.degree.-50 s/25 mWcm-2, an excellent film can be obtained: driving voltage 7 V, steepness .gamma. = 1.31, the temp. of transparency Tc = 10.degree..
ST polymer liq crystal composite film photopolymerizable monomer; electrooptical property polymer liq crystal composite film
IT Electrooptical effect
Liquid crystals, polymeric
UV radiation
(development of high-performance normal mode-type polymer/liq. crystal composite films using UV curable monomers)
IT 103-11-7DP, 2-Ethylhexyl acrylate, polymer with liq. crystal mixt.
999-61-1DP, 2-Hydroxypropyl acrylate, polymer with liq. crystal mixt.
1070-70-8DP, 1,4-Butanedioldiacrylate, polymer with liq. crystal mixt.
4813-57-4DP, Stearyl acrylate, polymer with liq. crystal mixt.
9004-74-4DP, Methoxy polyethylene glycol, polymer with liq. crystal mixt.
13048-33-4DP, 1,6-Hexanediol diacrylate, polymer with liq. crystal mixt.
26570-48-9DP, Polyethylene glycol diacrylate, polymer with liq. crystal mixt. 29590-42-9DP, Isooctyl acrylate, polymer with liq. crystal mixt.
45125-03-9DP, 3,5,5-Trimethylhexyl acrylate, polymer with liq. crystal mixt. 50974-47-5DP, polymer with liq. crystal mixt. 56641-05-5DP, Phenoxypolyethylene glycol acrylate, polymer with liq. crystal mixt.
164716-12-5DP, Licrilite TL 205, polymer with 1,4-butanediol diacrylate and lauryl acrylate 336128-50-8DP, 3,5-Difluorobenzyl acrylate, polymer with liq. crystal mixt.
RL: PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(development of high-performance normal mode-type polymer/liq. crystal composite films using UV curable monomers)

REFERENCE 3

AN 138:322717 CA
TI Evaluating cross-link density in model polyurethane acrylate coatings with 1H and 13C NMR relaxation measurements
AU Youngman, Randall E.; Schissel, David N.; Gasper, Susan M.
CS Science & Technology, Corning Incorporated, Corning, NY, 14831, USA
SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2003), 44(1), 350-351
CODEN: ACPPAY; ISSN: 0032-3934
PB American Chemical Society, Division of Polymer Chemistry
DT Journal; (computer optical disk)
LA English
CC 42-4 (Coatings, Inks, and Related Products)
AB Various NMR parameters are sensitive to the local mobility of structural units in solid polymer coatings. One of the greatest impacts on such dynamic processes is the extent of crosslinking that can be controlled during formulation and curing of the polymer. The sensitivity of proton T2 relaxation times and cross-polarization rate consts. (TCH) was evaluated for a series of UV-cured polyurethane acrylate oligomer films contg. a variety of polyol block sizes and therefore different cross-link densities. Changes in co-monomer type and the resulting influence on these measurements will also be presented.
ST crosslink density acrylic polyurethane polyoxyalkylene coating NMR

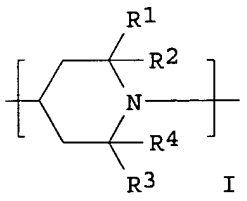
relaxation
IT Polyurethanes, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(acrylic-polyoxyalkylene-; evaluating cross-link d. in model polyurethane acrylate coatings with 1H and 13C NMR relaxation measurements)
IT Coating materials
Crosslink density
Spin-spin relaxation
(evaluating cross-link d. in model polyurethane acrylate coatings with 1H and 13C NMR relaxation measurements)
IT 50974-47-5, Photomer 4003 54398-08-2, Photomer 8061
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(coating component; evaluating cross-link d. in model polyurethane acrylate coatings with 1H and 13C NMR relaxation measurements)
IT 184649-96-5, Irgacure 1850
RL: CAT (Catalyst use); USES (Uses)
(evaluating cross-link d. in model polyurethane acrylate coatings with 1H and 13C NMR relaxation measurements)
RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
(1) Axelson, D; J Poly Sci B 1999, V37, P1307 CAPLUS
(2) Beckmann, P; J Magn Reson 2000, V146, P379 CAPLUS
(3) Borgia, G; Magnetic Resonance Imaging 2001, V19, P405 CAPLUS
(4) Knorgen, M; Polymer 2002, V43, P4091 CAPLUS
(5) Kolodziejski, W; Chem Rev 2002, V102, P613 CAPLUS
(6) Litvinov, V; Macromolecules 2001, V34, P4051 CAPLUS
(7) Marcinko, J; Appl Poly Sci 1992, V45, P391 CAPLUS
(8) Marcinko, J; J Appl Poly Sci 1994, V51, P1777 CAPLUS
(9) McConnell, J; ACS Symp Ser 1990, V417, P272 CAPLUS
(10) Menge, H; Polymer 2000, V41, P3019 CAPLUS
(11) Oh, S; J Poly Sci B 2000, V38, P1417 CAPLUS
(12) Santhana, P; J Macromol Sci Rev Macromol Chem Phys 1993, VC33(2), P147

REFERENCE 4

AN 138:311577 CA
TI Negative photopolymer compositions, photosensitive elements involving resist layers of the compositions, their patterning, and fabrication of printed wiring boards thereof
IN Aoki, Tomoaki; Ootomo, Satoshi; Kajiwara, Takuya
PA Hitachi Chemical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-004
ICS C08F002-44; C08F291-00; H05K003-06; H05K003-18
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 76
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| PI JP 2003114521 | A2 | 20030418 | JP 2002-113572 | 20020416 |
| PRAI JP 2001-237019 | 20010803 | | | |

GI



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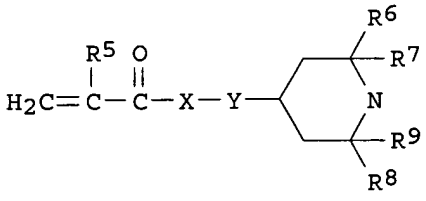


II

AB The compns., having good producibilty, developability, and adhesion strength contain (A) binder polymers, (B) photopolymerizable compds. bearing .gtoreq.1 polymerizable ethylenically unsatd. bonds, (C) photopolymn. initiators, and (D) hinderedamines as thermal stabilizers. Preferably, D have piperidine backbones represented by general formula I (R1-R4 = C1-20 alkyl), more preferably, II (R5 = H, Me; X = O, NH; Y = C0-10 alkylene, C2-6 alkyleneoxy; R10 = C1-20 alkyl; R6-R9 = C1-20 alkyl). Preferably, C comprises 2,4,5-triarylimidazole dimer or its derivs. The photosensitive elements comprise supports disposed thereon resist layers of the compns, and optionally protection films. Resist patterns are formed by (i) laminating resist layers on substrates, (ii) imagewise irradn. of actinic ray for photocure of the irradiated sites of the resist layers, and (iii) development and selective removal of unirradiated sites of the resist layers. Printed wiring boards (PWB) are manufd. by (i) laminating the resist layers on layers to be processed and diposed on substrates, (ii) imagewise irradn. of actinic ray for photocure of the irradiated sites of the resist layers, (iii) development and selective removal of unirradiated sites of the resist layers, and (iv) (selective) etching of the layers to be processed by using the resist patterns as masks. Preferably, the lamination step (i) in formation of resist patterns and PWB fabrication is done by bringing the resist layers of the photosensitive elements in tight adhesion with the substrates.

ST neg photoresist compn hinderedamine thermal stabilizer; printed circuit board manuf neg photoresist

IT Epoxy resins, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(glass fiber-reinforced; neg. photopolymer compns. for resists, their photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

IT Amines, reactions
RL: MOA (Modifier or additive use); RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
(hindered, ethylenically unsatd. group-contg., thermal stabilizers; neg. photopolymer compns. for resists, their photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

IT Amines, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(hindered, thermal stabilizer; neg. photopolymer compns. for resists, their photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

IT Heat stabilizers
(hinderedamines; neg. photopolymer compns. for resists, their photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

IT Negative photoresists
Printed circuits
(neg. photopolymer compns. for resists, their photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

IT Polyesters, uses
RL: NUU (Other use, unclassified); USES (Uses)
(support film; neg. photopolymer compns. for resists, their

photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

IT 28263-96-9, Ethyl acrylate-methacrylic acid-methyl methacrylate-styrene copolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(binder; neg. photopolymer compns. for resists, their photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

IT 90-93-7, 4,4'-Bis(diethylamino)benzophenone 6143-80-2, 2-(o-Chlorophenyl)-4,5-diphenylimidazole dimer
RL: CAT (Catalyst use); USES (Uses)
(neg. photopolymer compns. for resists, their photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

IT 41637-38-1, BPE 500 50974-47-5, Light Acrylate NP 8EA 52496-08-9, NK Ester APG 400
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
(neg. photopolymer compns. for resists, their photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

IT 148195-40-8, MCL-E 61
RL: TEM (Technical or engineered material use); USES (Uses)
(neg. photopolymer compns. for resists, their photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

IT 25038-59-9, GS 16, uses
RL: NUU (Other use, unclassified); USES (Uses)
(support film; neg. photopolymer compns. for resists, their photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

IT 52829-07-9, Sanol LS 770
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(thermal stabilizer; neg. photopolymer compns. for resists, their photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

IT 68548-08-3, Fancryl FA 711MM
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
(thermal stabilizer; neg. photopolymer compns. for resists, their photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

REFERENCE 5

AN 138:262706 CA
TI Photosensitive element and resist pattern formation using it
IN Murakami, Taiji
PA Hitachi Chemical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-004
ICS G03F007-027; H05K003-06; H05K003-18
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 37
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 2003098663 | A2 | 20030404 | JP 2001-289570 | 20010921 |
| PRAI | JP 2001-289570 | | 20010921 | | |

AB The element, comprising a base film coated with a photosensitive resin layer, is characterized by that (1) the layer comprises a binder polymer, a photopolymerizable compd. with .gtoreq.1 ethylenic unsatd. bond in a mol., and a photopolymn. initiator, and (2) the layer has absorbance 0.15-0.8 at 365 nm light. The element is exposed with light and developed to give resist pattern. The element shows rapid polymn. and gives high resoln. images by UV laser exposure, and is useful for manuf. of printed circuit board.

ST photosensitive resist ethylenic unsatd compd; absorbance photosensitive resist

IT Photoresists
(absorbance-controlled photoresist compn. contg. binder, unsatd. compd., and polymn. initiator)

IT 50974-47-5, Light Acrylate NP 8EA
RL: TEM (Technical or engineered material use); USES (Uses)
(NP 8EA; absorbance-controlled photoresist compn. contg. binder, unsatd. compd., and polymn. initiator)

IT 103-01-5, N-Phenylglycine 1707-68-2, 2,2'-Bis(o-chlorophenyl)-4,4',5,5'-tetraphenylbisimidazole 54537-15-4, Diethylaminobenzophenone 84563-54-2, BBI 105
RL: CAT (Catalyst use); USES (Uses)
(absorbance-controlled photoresist compn. contg. binder, unsatd. compd., and polymn. initiator)

IT 25300-85-0, Ethyl methacrylate-methacrylic acid-styrene copolymer 41637-38-1, BPE 500 52496-08-9, APG 400
RL: TEM (Technical or engineered material use); USES (Uses)
(absorbance-controlled photoresist compn. contg. binder, unsatd. compd., and polymn. initiator)

REFERENCE 6

AN 138:201280 CA
TI Microplate with varing physical property, and its production method
IN Takada, Akio; Teramae, Atsushi; Anazawa, Takanori
PA Kawamura Institute of Chemical Research, Japan
SO Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G01N033-48
ICS C08J007-04; G01N001-00; C08L101-00
CC 9-1 (Biochemical Methods)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 2003066033 | A2 | 20030305 | JP 2001-252781 | 20010823 |
| PRAI | JP 2001-252781 | | 20010823 | | |

AB Several types of microplates possessing varying phys. properties are provided: a microplate, with which it is easy to miniaturize its wells, and the surface of wells is provided with a hydrophilic property for lowering the adsorption of a biol. component; a microplate, with which the surface of wells is provided conversely with a hydrophobic property for adsorbing or covalently binding a target protein such as an antigen; and a microplate, with which an aq. soln. hardly overflows to the outside due to its hydrophilic well bottom part and hydrophobic well wall part. A convenient method for producing these microplates is also provided. These microplates are characterized in that a large no. of wells, concave parts for accommodating samples, are created in rows on a base material, and at least one of the well bottom part and the well wall part consists of a hardened material of an active energy ray-hardenable resin compn.

ST microplate resin radiation hardening hydrophilicity hydrophobicity

IT Polymers, uses
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)

(active energy ray-hardenable; microplate with varing phys. property, and its prodn. method)

IT Adsorption
Biochemical molecules
Hydrophilicity
Hydrophobicity
Liquid-solid interface
Microtiter plates
Physical properties
Solutions
UV radiation
(microplate with varing phys. property, and its prodn. method)

IT Antigens
RL: ANT (Analyte); ARG (Analytical reagent use); CPS (Chemical process); PEP (Physical, engineering or chemical process); PYP (Physical process); ANST (Analytical study); PROC (Process); USES (Uses)
(microplate with varing phys. property, and its prodn. method)

IT Proteins
RL: ANT (Analyte); CPS (Chemical process); PEP (Physical, engineering or chemical process); PYP (Physical process); ANST (Analytical study); PROC (Process)
(microplate with varing phys. property, and its prodn. method)

IT Crosslinking
(radiochem.; microplate with varing phys. property, and its prodn. method)

IT 13048-33-4 27905-45-9 50974-47-5 52628-03-2, P 2M 160299-80-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(microplate with varing phys. property, and its prodn. method)

REFERENCE 7

AN 138:171962 CA
TI Thermoplastic elastomer coating on optical fibers or waveguides
IN Fabian, Michelle D.; Fewkes, Edward J.; Jacobs, Gregory F.; Kouzmina, Inna I.; Sorensen, Michael L.; Wagner, Frederic C.
PA Corning Incorporated, USA
SO PCT Int. Appl., 29 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C03C025-00
CC 42-10 (Coatings, Inks, and Related Products)
Section cross-reference(s): 57, 73

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | WO 2003011787 | A2 | 20030213 | WO 2002-US19049 | 20020617 |
| | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW | | | | |
| | RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR | | | | |
| | US 2003053782 | A1 | 20030320 | US 2001-917459 | 20010727 |

PRAI US 2001-917459 20010727

AB Curable coating compns. for coating optical fibers are described which includes .gtoreq.1 reactive monomer and a block copolymer comprising .gtoreq.1 hard block and .gtoreq.1 soft block, wherein the hard block has a Tg greater than the Tg of the soft block. Methods for making coated optical fibers are described which entail providing an optical fiber; coating the optical fiber with the curable coating compn. , and polymg. the compn. under conditions effective to form a coating over the optical

fiber. Coated optical fibers are also described which have .gtoreq.1 coating layer contg. the cured polymers.

ST thermoplastic elastomer optical fiber coating

IT Isoprene-styrene rubber
Styrene-butadiene rubber, uses
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
(block, triblock, coating compns. contg.; thermoplastic elastomer coating compns. for optical fibers and methods for coating the fibers and the coated fibers)

IT Styrene-butadiene rubber, uses
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
(hydrogenated, block, triblock, maleated, coating compns. contg.; thermoplastic elastomer coating compns. for optical fibers and methods for coating the fibers and the coated fibers)

IT Coating materials
Coating process
Optical fibers
(thermoplastic elastomer coating compns. for optical fibers and methods for coating the fibers and the coated fibers)

IT Thermoplastic rubber
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
(thermoplastic elastomer coating compns. for optical fibers and methods for coating the fibers and the coated fibers)

IT 1330-61-6, Isodecyl Acrylate 2156-97-0, Lauryl acrylate 50974-47-5, Ethoxylated nonyl Phenol acrylate
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
(coating compns. contg.; thermoplastic elastomer coating compns. for optical fibers and methods for coating the fibers and the coated fibers)

IT 105729-79-1
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
(isoprene-styrene rubber, block, triblock, coating compns. contg.; thermoplastic elastomer coating compns. for optical fibers and methods for coating the fibers and the coated fibers)

IT 106107-54-4
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
(styrene-butadiene rubber, block, triblock, coating compns. contg.; thermoplastic elastomer coating compns. for optical fibers and methods for coating the fibers and the coated fibers)

IT 9003-55-8
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
(styrene-butadiene rubber, hydrogenated, block, triblock, maleated, coating compns. contg.; thermoplastic elastomer coating compns. for optical fibers and methods for coating the fibers and the coated fibers)

REFERENCE 8

AN 138:161075 CA

TI Photosensitive resin composition for high density and resolution pattern formation and its usage

IN Fukaya, Takehiro; Itagaki, Katsutoshi

PA Hitachi Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF

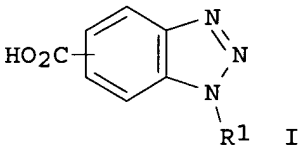
DT Patent

LA Japanese

IC ICM G03F007-085
ICS C08F002-44; C08F291-00; G03F007-033; H05K003-06; H05K003-18
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| PI JP 2003035953 | A2 | 20030207 | JP 2001-221374 | 20010723 |
| PRAI JP 2001-221374 | 20010723 | | | |

GI



I

AB The compn. comprises (A) a polymer binder contg. copolymer of styrene and its deriv., (B) a photopolymerizable compd. having .gtoreq.1 ethylenic unsatd. bond in a mol., (C) a photopolymn. initiator, and (D) carboxybenzotriazole I (R1 = H, C.ltoreq.20 alkyl, aminoalkyl) and/or its deriv. as an additive. Photosensitive element, resist pattern, and printed circuit board formed by using the compn. are also claimed. The compn. shows good adhesion with the substrate and gives high d. and resoln. patterns with good chem. and mech. resistance.

ST photoresist styrene polymer binder carboxy benzotriazole deriv; printed circuit board photoresist

IT Photoresists
(photosensitive resin compn. contg. carboxybenzotriazole deriv.)

IT Printed circuit boards
(printed circuit board formed by using photoresist contg. carboxybenzotriazole deriv.)

IT 28263-96-9P, Ethyl acrylate-methacrylic acid-methyl methacrylate-styrene copolymer
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(binder; photosensitive resin compn. contg. carboxybenzotriazole deriv.)

IT 60932-58-3, Carboxybenzotriazole
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(photosensitive resin compn. contg. carboxybenzotriazole deriv.)

IT 25035-81-8P, Methacrylic acid-methyl methacrylate-styrene copolymer
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photosensitive resin compn. contg. carboxybenzotriazole deriv.)

IT 41637-38-1, BPE 1300 50974-47-5, Light Acrylate NP 8EA
RL: TEM (Technical or engineered material use); USES (Uses)
(photosensitive resin compn. contg. carboxybenzotriazole deriv.)

REFERENCE 9

AN 138:155128 CA
TI Low modulus, high tensile strength optical fiber coating containing photocurable polymers having a soft oligomer
IN Chou, Kevin Y.; Givens, Steven R.; Schissel, David N.
PA Corning Incorporated, USA
SO PCT Int. Appl., 43 pp.
CODEN: PIXXD2

DT Patent
LA English
IC ICM C08G018-67
ICS C09D175-16; C03C025-10; C09D004-06
CC 42-10 (Coatings, Inks, and Related Products)
Section cross-reference(s): 73
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2003011938 | A1 | 20030213 | WO 2002-US19199 | 20020617 |

PI W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR
PRAI US 2001-916536 20010727
AB A coating compn. includes at least one oligomer including a polyol soft block having a no.-av. mol. wt. of more than about 4000, and at least one reactive monomer. The cured coating compn. has a tensile strength of at least about 0.85 MPa and a Young's Modulus of less than about 1.3 MPa. The invention further includes an optical fiber having a primary coating layer with the aforementioned coating compn. and a method for coating the optical fiber. Thus, placing Desmodur W 13.12, BHT antioxidant 0.182 and dibutyltin dilaurate 0.188 in a reactor, adding dropwise Acclaim 4200 (PPG diol) 100 to the reactor over 1 h, heating to approx. 80.degree. for 1 h, cooling to approx. 70.degree., adding 2-hydroxyethyl acrylate 5.81 g over 3 min and heating to and at 80.degree. for 2 h gave a reactive oligomer. Mixing the oligomer 52 with Photomer 4003 (macromer) 45 and Irgacure 1850 (photoinitiator) 3%, heating at 50-55.degree. for .gtoreq.8 h, casting on a release paper to a thickness of 5 mils, and irradiating with UV light gave a cured film with refractive index n 1.4790, Young modulus 1.28 MPa, tensile strength 1.39 MPa, elongation 134% and Tg -36.degree..
ST urethane acrylic photocurable coating optical fiber high refractive index
IT Optical fibers
(manuf. of low modulus, high tensile strength optical fiber coating contg. photocurable polymers)
IT Coating materials
(photocurable; manuf. of low modulus, high tensile strength optical fiber coating contg. photocurable polymers)
IT Polyurethanes, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyoxyalkylene-, acrylate; manuf. of low modulus, high tensile strength optical fiber coating contg. photocurable polymers)
IT 496051-26-4DP, Acclaim 4200-DesmodurW copolymer, reaction products with hydroxyethyl acrylate, copolymers with macromer 496051-31-1DP, Acclaim 4200-4,4'-methylenebis(cyclohexyl isocyanate) copolymer, reaction products with hydroxyethyl acrylate, copolymers with macromer
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(coating compn.; manuf. of low modulus, high tensile strength optical fiber coating contg. photocurable polymers)
IT 818-61-1DP, 2-Hydroxyethyl acrylate, reaction products with polymer isocyanates and macromers 50974-47-5DP, Photomer 4003, reaction products with macromers bearing soft oligomer portions 54398-08-2DP, Photomer 8061, reaction products with macromers bearing soft oligomer portions 496051-34-4P, Photomer 8061-BR 3731 copolymer 496051-38-8DP, Isophorone diisocyanate-polypropylene glycol-PTMG block copolymer, reaction products with hydroxyethyl acrylate, copolymers with macromer 496051-41-3DP, Isophorone diisocyanate-propylene oxide-THF block copolymer, reaction products with hydroxyethyl acrylate, copolymers with macromer

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manuf. of low modulus, high tensile strength optical fiber coating contg. photocurable polymers)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD


(1) Coady; US 4992524 A CAPLUS
(2) Dsm; WO 0183393 A CAPLUS
(3) Dsm; EP 1209132 A CAPLUS
(4) Dsm; WO 9908975 A CAPLUS
(5) N V Philips Gloeilampenfabrieken; EP 0167199 A CAPLUS
(6) Shin-Etsu Chemical; EP 1046619 A 2000 CAPLUS
(7) Union Carbide; DE 2726041 A CAPLUS


REFERENCE 10

AN 138:144805 CA
TI Optical fibers with a primary coating having a higher degree of cure

IN Baker, Linda S.; Peanasky, John S.
PA Corning Incorporated, USA


SO PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C03C025-00
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 57

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| PI WO 2003008356 | A2 | 20030130 | WO 2002-US15098 | 20020514 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW | | | | |
| RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR | | | | |
| US 2003059188 | A1 | 20030327 | US 2002-86109 | 20020227 |

PRAI US 2001-307010P 20010720


AB The optical fiber comprises a core; a primary coating substantially encapsulating the fiber, the primary coating being the cured product of a first polymerizable compn. including a first photoinitiator which absorbs light within a range of the UV spectrum; and a secondary coating substantially encapsulating the primary coating on the fiber, the secondary coating being the cured product of a second polymerizable compn. including a second photoinitiator which also absorbs light within the range of the UV spectrum. Bis-acyl-phosphine oxide is used as the first photoinitiator and monoacyl-phosphine oxide as the second one, and a mixt. of oligomers and monomers is used to form the coatings. The av. integrated intensity for the second photoinitiator is 95% or less of the one for the primary photoinitiator over the 360-420 nm range of the UV spectrum. Also disclosed are fiber optic ribbons including the optical fibers, methods for making the optical fibers, and methods of increasing the degree of cure for a primary coating on an optical fiber.


ST optical fiber curing coating
IT Coating materials
Optical absorption
Optical fibers
(optical fibers with primary coating having higher degree of cure)
IT 4420-74-0, 3-Mercaptopropyl trimethoxysilane 60354-74-7
RL: MOA (Modifier or additive use); USES (Uses)
(coating adhesion promoter; optical fibers with primary coating having

higher degree of cure)

IT 41484-35-9, Irganox 1035
RL: TEM (Technical or engineered material use); USES (Uses)
(coating antioxidant additive; optical fibers with primary coating having higher degree of cure)

IT 162881-26-7, Irgacure 819
RL: TEM (Technical or engineered material use); USES (Uses)
(first photoinitiator; optical fibers with primary coating having higher degree of cure)

IT 947-19-3, Irgacure 184
RL: TEM (Technical or engineered material use); USES (Uses)
(photoinitiator; optical fibers with primary coating having higher degree of cure)

IT 50974-47-5, Photomer 4003 305795-12-4, BR 3731
RL: TEM (Technical or engineered material use); USES (Uses)
(primary coating component; optical fibers with primary coating having higher degree of cure)

IT 189146-15-4, Lucirin TPO
RL: TEM (Technical or engineered material use); USES (Uses)
(second photoinitiator; optical fibers with primary coating having higher degree of cure)

IT 64401-02-1, Photomer 4028 102641-47-4, Photomer 3016 347398-18-9, KWS 4131
RL: TEM (Technical or engineered material use); USES (Uses)
(secondary coating component; optical fibers with primary coating having higher degree of cure)

IT 438208-45-8
RL: TEM (Technical or engineered material use); USES (Uses)
(secondary coating; optical fibers with primary coating having higher degree of cure)

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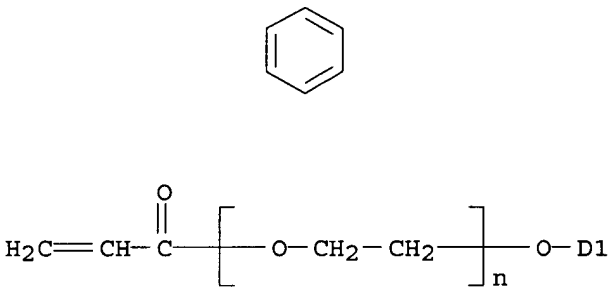
L3 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS



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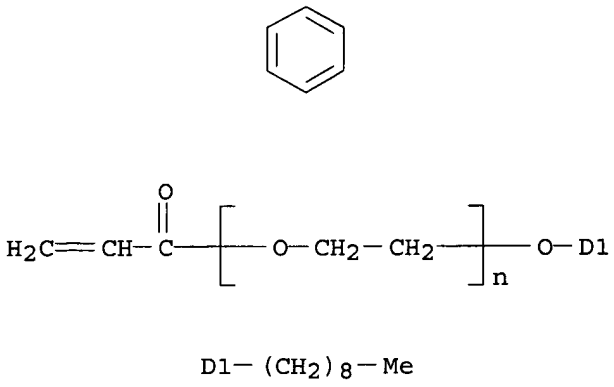
FILE 'CAPLUS' ENTERED AT 15:25:57 ON 09 JUN 2003
L1 9 S EPNA
L2 1 S ETHOXYLATED AND PHENOLACRYLATE

FILE 'REGISTRY' ENTERED AT 15:29:08 ON 09 JUN 2003

L3 1 S 50974-47-5

L6 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2003 ACS
AN 2002:894265 CAPLUS
DN 138:346386
TI Development of high-performance normal mode type (polymer/**liquid crystal**) composite films using UV curable monomers
AU Hasuo, Haruumi; Yamaguchi, Masahiro; Gunjima, Tomoki; Rajesh, Kumar; Yang, Huai; Kimura, Reiko; Amaya, Naoyuki; Kaiya, Norihiro; Kikuchi, Hirotsugu; Kajiyama, Tisato
CS Chem. Textile Res. Inst., Fukuoka Ind. Technol. Cent., Chikushino, 818-8540, Japan
SO Kenkyu Hokoku - Fukuoka-ken Kogyo Gijutsu Senta (2002), Volume Date 2001, 12, 14-17
CODEN: KFKSEH; ISSN: 0916-8230
PB Fukuoka-ken Kogyo Gijutsu Senta
DT Journal
LA Japanese
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 37, 38, 75, 76
AB The driving voltage, steepness (.gamma.) and contrast of the titled film are very important elec. optical properties, which depend on the properties of both the **liq. crystal** and the UV curable monomer used. And to obtain large **liq. crystal** composite film using rolls, the temp. of polymn. is required to be ca. 40.degree.. By mixing TL213 as **liq. crystal**, 3,3,5-trimethylhexylacrylate (TMHA) as a monomer and 1,6-hexanedioldivinylether (HDDVE) as a crosslinking reagent; TL213/TMHA/HDDVE = 80/14/6, and polymg. under 40.degree.-50 s/25 mWcm-2, an excellent film can be obtained: driving voltage 7 V, steepness .gamma. = 1.31, the temp. of transparency Tc = 10.degree..
ST polymer **liq crystal** composite film photopolymerizable monomer; electrooptical property polymer **liq crystal** composite film
IT Electrooptical effect
**Liquid crystals**, polymeric
UV radiation
(development of high-performance normal mode-type polymer/**liq. crystal** composite films using UV curable monomers)
IT 103-11-7DP, 2-Ethylhexyl acrylate, polymer with **liq. crystal** mixt. 999-61-1DP, 2-Hydroxypropyl acrylate, polymer with **liq. crystal** mixt. 1070-70-8DP, 1,4-Butanedioldiacrylate, polymer with **liq. crystal** mixt. 4813-57-4DP, Stearyl acrylate, polymer with **liq. crystal** mixt. 9004-74-4DP, Methoxy polyethylene glycol, polymer with **liq. crystal** mixt. 13048-33-4DP, 1,6-Hexanediol diacrylate, polymer with **liq. crystal** mixt. 26570-48-9DP, Polyethylene glycol diacrylate, polymer with **liq. crystal** mixt. 29590-42-9DP, Isooctyl acrylate, polymer with **liq. crystal** mixt. 45125-03-9DP, 3,5,5-Trimethylhexyl acrylate, polymer with **liq. crystal** mixt. **50974-47-5DP**, polymer with **liq. crystal** mixt. 56641-05-5DP, Phenoxypolyethylene glycol acrylate, polymer with **liq. crystal** mixt. 164716-12-5DP, Licrilite TL 205, polymer with 1,4-butanediol diacrylate and lauryl acrylate 336128-50-8DP, 3,5-Difluorobenzyl acrylate, polymer with **liq. crystal** mixt.
RL: PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(development of high-performance normal mode-type polymer/**liq. crystal** composite films using UV curable monomers)
IT **50974-47-5DP**, polymer with **liq. crystal** mixt.
RL: PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(development of high-performance normal mode-type polymer/**liq**

. **crystal** composite films using UV curable monomers)
RN 50974-47-5 CAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-(1-oxo-2-propenyl)-.omega.-(nonylphenoxy)- (9CI) (CA INDEX NAME)



D1— $(CH_2)_8$ —Me

L6 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2003 ACS
AN 1998:527390 CAPLUS
DN 129:142698
TI Polymer-dispersed **liquid crystal** cell
IN Sebutoviez, Christoph; Kloosterboer, Johan George; Touwslager, Fredericus Johannes
PA Koninklijke Philips Electronics N.V., Neth.; Philips Norden AB
SO PCT Int. Appl., 18 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C09K019-54
ICS G02F001-1333
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 75
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | WO 9832814 | A1 | 19980730 | WO 1998-IB33 | 19980112 |
| | W: JP | | | | |
| | RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | EP 889942 | A1 | 19990113 | EP 1998-900029 | 19980112 |
| | EP 889942 | B1 | 20011031 | | |
| | R: DE, FR, GB | | | | |
| | JP 2000508710 | T2 | 20000711 | JP 1998-529174 | 19980112 |
| | US 6306469 | B1 | 20011023 | US 1998-13546 | 19980126 |
| | US 2002045014 | A1 | 20020418 | US 2001-877312 | 20010608 |
| PRAI | EP 1997-200218 | A | 19970128 | | |
| | WO 1998-IB33 | W | 19980112 | | |
| | US 1998-13546 | XX | 19980126 | | |

AB The invention provides a method of filling a cell, a polymerizable mixt. suitable for this purpose as well as a display device provided with such a cell. The mixt. in accordance with the invention comprises two types of nonvolatile reactive monomers, the first type of monomer being readily miscible with **liq. cryst.** material and the second type of monomer being poorly miscible with the **liq. cryst.** material. Such a mixt. proves to be very stable. In addn., when such a mixt. is used in a cell, problems regarding compositional drift do not occur. A cell in which the inventive mixt. is used demonstrates a relatively low hysteresis as well as relatively low switching voltage. By

virtue thereof, it is very attractive to use the cell in a display device.

ST polymer dispersed **liq crystal** display cell; polymerizable mixt **liq crystal** display cell

IT **Liquid crystal** displays
(polymer-dispersed; polymerizable compns. contg. two types of monomers for prepn. of)

IT 2156-96-9, Decyl acrylate 2156-97-0, Dodecyl acrylate 3076-04-8, Tridecyl acrylate 4813-57-4, Octadecyl acrylate 7473-98-5, Darocur 1173 **50974-47-5**, Ethoxylated nonylphenol acrylate 161107-74-0, PN393 164716-12-5, TL 205 189146-15-4, Lucirin TPO
RL: TEM (Technical or engineered material use); USES (Uses)
(polymer-dispersed **liq.-crystal** display cell prepn. using polymerizable compns. contg.)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

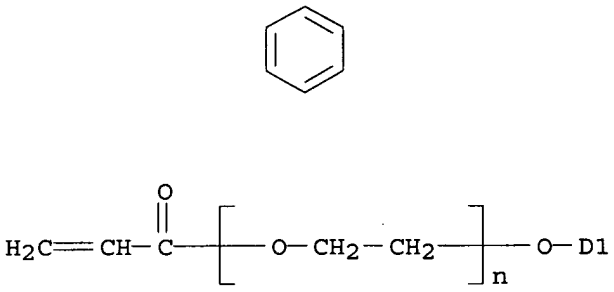
RE

(1) Lucent Technologies Inc; EP 0791641 A1 1997 CAPLUS
(2) Sharp Corporation; EP 0575791 A1 1993 CAPLUS
(3) Yasuyuki, T; US 5496497 A 1996 CAPLUS

IT **50974-47-5**, Ethoxylated nonylphenol acrylate
RL: TEM (Technical or engineered material use); USES (Uses)
(polymer-dispersed **liq.-crystal** display cell prepn. using polymerizable compns. contg.)

RN 50974-47-5 CAPLUS

CN Poly(oxy-1,2-ethanediyl), .alpha.-(1-oxo-2-propenyl)-.omega.-(nonylphenoxy)- (9CI) (CA INDEX NAME)



D1— $(CH_2)_8$ —Me

L6 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2003 ACS

AN 1997:4479 CAPLUS

DN 126:39896

TI Display device using polymer-dispersed **liquid crystal** film

IN Abe, Tomya; Konishi, Shiro; Okabe, Masahiro

PA Hitachi Cable, Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G02F001-1333
ICS C09K019-54; G02F001-137

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 75

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 08220513 | A2 | 19960830 | JP 1995-24112 | 19950213 |

PRAI JP 1995-24112 19950213

AB The device includes a **liq. crystal** film where **liq. crystal** drops are dispersed in an aq.-sol. polymer matrix via a film of phenoxyalkylene glycol (meth)acrylate deriv. R1-C6H4-O(R2)n-C(:O)C:CH2R3 (sic.) (R1 = H, alkyl, halo; R2 = ethoxy, isopropoxy; R3 = H, Me; n .gtoreq.1). The device can be driven with low elec. voltage and shows low hysteresis.

ST display polymer dispersed **liq crystal** film; phenoxy alkylene glycol acrylate dispersed display

IT **Liquid crystal** displays
(display device using polymer-dispersed **liq. crystal** film)

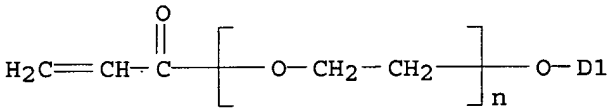
IT 122463-72-3, Poval 205 163663-29-4, TL 204
RL: DEV (Device component use); USES (Uses)
(display device using polymer-dispersed **liq. crystal** film)

IT 34962-82-8P, NK ESTER AMP-10G homopolymer **50974-47-5P** 71926-19-7P 112025-90-8P
RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(display device using polymer-dispersed **liq. crystal** film)

IT **50974-47-5P**
RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(display device using polymer-dispersed **liq. crystal** film)

RN 50974-47-5 CAPLUS

CN Poly(oxy-1,2-ethanediyl), .alpha.-(1-oxo-2-propenyl)-.omega.-(nonylphenoxy)- (9CI) (CA INDEX NAME)




D1— $(CH_2)_8$ —Me

L6 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2003 ACS

AN 1995:773279 CAPLUS

DN 123:301642

TI High-contrast **liquid crystal** display device

IN Tsucha, Yutaka; Chino, Eiji; Kobayashi, Hidekazu; Yazaki, Masayuki; Iizaka, Hideto

PA Seiko Epson Corp, Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G02F001-1333
ICS C08F020-28; G02F001-13

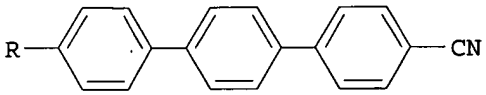
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38, 75

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| PI JP 07159765 | A2 | 19950623 | JP 1993-310786 | 19931210 |
| PRAI JP 1993-310786 | | 19931210 | | |

GI

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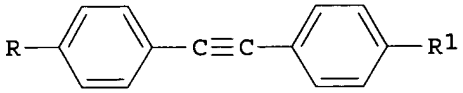



II

AB The display device, which can retain the indicating state without an elec. field, comprises dispersed chiral nematic **liq. crystals** and a polymer whose precursor is CH2:C(X)C(:O)OY or CH2:C(X)C(:O)OYOC(:O)C(X'):CH2 (X, X' = H, Me; Y = alkyl, alkyl ether). The polymer precursor may have an arom. ring in the chains. The **liq. crystal** may contain I or II (R, R' = alkyl, alkyl ether).

ST display device chiral nematic **liq crystal**; acrylic polymer display device

IT **Liquid crystals**
(cholesteric, high-contrast **liq. crystal** display device contg. acrylic polymers)

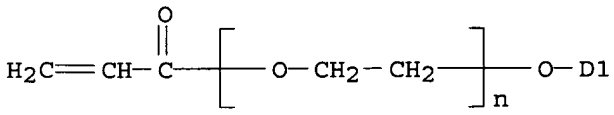
IT Optical imaging devices
(**liq.-crystal**, high-contrast **liq. crystal** display device contg. acrylic polymers)

IT 26570-48-9, Aronix M 245 36007-59-7 **50974-47-5**, Aronix M 111 62722-22-9, Aronix M 120 117931-68-7, Aronix M 101 homopolymer 123504-05-2, Aronix M 6200 homopolymer 169217-00-9 169217-01-0 169526-50-5
RL: DEV (Device component use); USES (Uses)
(high-contrast **liq. crystal** display device contg. acrylic polymers)

IT **50974-47-5**, Aronix M 111
RL: DEV (Device component use); USES (Uses)
(high-contrast **liq. crystal** display device contg. acrylic polymers)

RN 50974-47-5 CAPLUS

CN Poly(oxy-1,2-ethanediyl), .alpha.-(1-oxo-2-propenyl)-.omega.-(nonylphenoxy)- (9CI) (CA INDEX NAME)



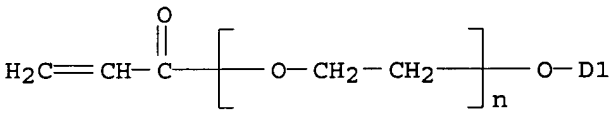
D1— $(CH_2)_8$ —Me

L6 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2003 ACS
AN 1994:42058 CAPLUS
DN 120:42058
TI Projection type **liquid-crystal** display device
IN Yazaki, Masayuki
PA Seiko Epson Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G02F001-1333
ICS C08F220-30; C08F299-02; G02F001-133; G02F001-136; H04N005-74
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| PI JP 05019240 | A2 | 19930129 | JP 1991-172117 | 19910712 |
| PRAI JP 1991-172117 | | 19910712 | | |

AB In the title display device comprising a **liq.-crystal** display element in which a **liq. crystal** is enclosed between 2 electrode-bearing transparent substrates, a projection light source, and a projection optical system, the above **liq. crystal** is based on a polymer-dispersed **liq. crystal** film in which a nematic **liq. crystal** is dispersed in a polymer matrix. The display device can produce images with high brightness and contrast.

ST projection polymer dispersed **liq crystal** display
IT Optical imaging devices
(electrooptical **liq.-crystal**, projection type, polymer-dispersed **liq. crystal** layers for)
IT **50974-47-5** 88922-69-4, Aronix M 6200
RL: USES (Uses)
(polymer-dispersed **liq. crystal** layers contg.)
IT **50974-47-5**
RL: USES (Uses)
(polymer-dispersed **liq. crystal** layers contg.)
RN 50974-47-5 CAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-(1-oxo-2-propenyl)-.omega.-(nonylphenoxy)- (9CI) (CA INDEX NAME)




D1— $(CH_2)_8$ — Me